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December 14, 2005

Mr. George Riedesel, P.E.  
Millcreek Township Sewer Authority  
3608 West 26<sup>th</sup> Street  
Erie, PA 16506

Dear Mr. Riedesel:

On November 29, 2005, there was a bypass at the Kearsarge pump station after a lengthy rainfall. Bypass began at 10:00 a.m. and continued for two hours until 12 noon when the overflow was turned off. At the time the overflow began, the wet well had backed up to the first floor. All three pumps were operating with a recorded flow of 3800 gpm (5130 gpm corrected).

The bypass valve was opened seven turns. Recorded flows reached 5000 gpm (6750 gpm corrected) until a stable level was reached in the wet well at which time the bypass was reduced to five turns and then four turns (10:20 a.m. and 10:25 a.m.) with recorded flows of 4300 gpm (5800 gpm corrected). All three pumps remained running until 11:00 a.m. when they began alternating between two and three pumps. At 11:10 a.m. two pumps became capable of keeping up with the flows. Flows dropped to 4000 gpm (5400 gpm corrected) with two pumps running. Pumps began varying speed at about 11:45 a.m. as the inlet flow decreased below their capacity and at 12:00 noon the overflow was turned off. Forward flows at that time were recorded at 4050 gpm and varied between 2800 gpm (3780 gpm) and 3200 gpm (4320 gpm) over the next 20 minutes while we continued to observe the station.

Bypass volumes were estimated utilizing discharge pressures and previous information on pressure and flow correlation. The initial discharge was estimated at the difference between the original discharge volume and the immediate increase in flow once the bypass was open to seven turns. That number is 1600 gpm for 20 minutes. At 10:20 the overflow estimate was based upon relationship of pressure flow forward and deducting that amount from the total recorded amount. A tabulation of all these values is enclosed. The total discharge volume through the overflow is estimated at 136,500 gallons for the two hour period, 10:00 a.m. to 12 noon, on November 29, 2005.

If you would like any additional information, please contact us.

Very truly yours,

Gerald C. Allender, P.E.  
Senior Associate

GCA:lb

Enclosure

Post-it® Fax Note	7671	Date	12-14	# of pages	2
To	Geo. Riedesel	From	Jerry Allender		
Co./Dept.	MTSA	Co.	Metcalf & Eddy		
Phone #		Phone #			
Fax #	835-6615	Fax #			

MILLCREEK TOWNSHIP SEWER AUTHORITY  
 KEARSARGE PUMP STATION  
 NOVEMBER 29, 2005 OVERFLOW

Time	Overflow		Pump Station Flow		Forward Flow		Overflow Volume	
	Y/N	Turns	Recorded (gpm)	Corrected (gpm)	Pressure	Rate (gpm)	Rate (gpm)	Volume (gallon)
9:55 A.M.	N	0	3,800	5,130	-	-	0	
10:00 A.M.	Y	7	5,000	6,750	N/A	1,600	1,600	
								32,000
10:20 A.M.	Y	5	4,300	5,800	N/A	-	1,300	
								6,500
10:25 A.M.	Y	4	4,300	5,800	N/A	-	1,300	
								45,500
11:00 A.M.	Y	4	4,300	5,860	39	4,500	1,300	
								6,500
11:05 A.M.	Y	4	4,300	5,800	45*	4,600	1,200	
								6,000
11:10 A.M.	Y	4	4,000	5,400	40	4,600	800	
								16,000
11:30 A.M.			3,600	4,860	35	3,650	1,200	
								18,000
11:45 A.M.			3,000	4,050	35	3,650	400	
								6,000
12:00 N	N	0	3,000	4,050	42	4,050	0	
12:15 P.M.	N	0	3,200	4,320	43	4,320	0	
12:30 P.M.	N	0	2,800	3,780	43	3,780	0	
<b>TOTAL</b>								<b>136,500</b>

\* ignored

kearsargepsnov2905overflow.xls

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**MSA-MT 5288**